

Changes in Complex PSD Application Guidance

Background.

In August 2010 the amount of staff effort correcting applicant impressions from the obsolete permitting materials on the Construction Permits web page reached the point that AQ staff began an update process starting with the “Complex PSD Application Guidance”.

This document had three major problems (as well as a number of minor issues).

1st. It was technically incorrect. It was based on the PSD program as it existed based on the March 12, 1996 EPA rules. Since 1996, both EPA and the State of Iowa promulgated a major program revision in 2002 as well as several other changes in rule and in guidance including those resulting from a number of court decisions. The effect was that readers were led to develop applications that could not be approved until significant modifications were developed.

2nd. The manual was organized to present the development and review of a PSD application in terms of the sequence of events in that process, however, significant activities were presented out of order, embedded in incorrect steps or simply overlooked. As a result significant pre-application efforts were mentioned near the end of the permit review phase and other errors. This led applicants to overlook steps that cause significant delays that could have been avoided if addressed earlier in the application process.

3rd. The manual was inconsistent with other guidance documents presented on the same DNR web page.

Finally, there were statements that simply didn’t make sense and paragraphs that were clearly cut-and-paste products of several staff with dramatically different writing patterns. There were instructions for forms that didn’t exist (as well as existing forms that were not mentioned). There were definitions that paraphrased rule definitions (but led the reader to different conclusions) and there were hyperlinks that hadn’t worked for years.

The development process was assigned to a single staff person to avoid the “multiple authors” effect.

The review involved the Construction Permits Supervisor, the Construction Permits staff and dispersion modeling staff totaling five separate reviews. This process took until March 30, 2011 and led to the posting of the new guidance on the web page. This web posting has since been identified a draft guidance.

Specific Details of Changes

Forward.

The **Forward** was changed from a description of a specific 2004 Kaizen event (and distinctions used in that Kaizen) that led to the original document to a description of how PSD permits fit into the overall permitting process as it exists today. This was done since a historical summary of a report-out of a specific Kaizen event (out of the several air construction permitting Kaizen events that have occurred) simply doesn't add any value to a current applicant and their efforts to get their permit approved. By contrast an explanation of the consolidated permit aspects of air construction permitting does help explain the structure of the permit that the applicant will be obtaining.

Finally a disclaimer was added so that it was clear that this guidance document does not preempt any rule.

PSD Overview.

The **PSD Overview** was updated to reference current rules as well as being expanded and restructured for clarity. Specific additions include further explanation of how PSD permits fit into the overall permitting process [including individual permits for each emission unit and single (consolidated) permits covering all air construction permitting programs] This was considered important because of the number of applicants using staff who permitting experience is limited to states with different approaches to PSD permitting.

It was explicitly noted that PSD reviews is conducted on a pollutant-by-pollutant nature of PSD review. The public participation requirements of the PSD program were added to this section in addition to later references. Finally a note was added that construction permits currently are free.

Major Stationary Source.

A new section (**Major Stationary Sources**) was created to address the determination of which activities need to be included in the stationary source for PSD purposes.

This section includes a brief overview of the source determination process previously discussed late in the old guidance in the **Common control /support facility determination** discussion from the **Complex PSD Submittal Items** section. This was introduced to more accurately track the sequence of events in developing and reviewing a PSD application on the hopes of speeding the process. In moving this discussion it was expanded to clarify this process and to delete obsolete and inaccurate phrases. This discussion was inserted in the front of the document to alert those companies which have operations which are distributed across operating units (or geographically distributed) that the PSD project must include the impacts on these operations. For most applicants this has already been addressed and is no longer an issue. It is significant however, for a minority of applicants especially those that had not previously been subject to PSD review. For this latter group it is important that they identify the extent

of the PSD major stationary source as soon as possible.

It was decided, however, to defer discussion of the actual calculations including the issues involving “net emission increase” (baseline actuals, projected actuals, and netting) to the **PSD Application Elements** section since these are seldom resolved until a complete application is submitted because of the degree of documentation involved in these steps.

The **Major Stationary Source** section ended dealing entirely with the identification of what activities constitute a single stationary source for purposes of PSD review.

Preliminary Efforts.

The **Preconstruction Monitoring** section from the old guidance was incorporated into a new **Preliminary Efforts** section and expanded to more clearly identify monitoring options. Added to this newly named section are explicit descriptions of the dispersion modeling issues glancingly noted in the old section and to explicitly address the soils and vegetation inventory that was briefly noted in the **Soils and vegetation impacts** paragraph of the BACT review section of the old document. This was done to bring the guidance into conformity with the PSD Application Checklist (developed at the same time as the original guidance). This change also more clearly reflects the sequence of activities in development of a PSD application and its review particularly since these steps can dramatically delay the entire process.

Even though these subjects were not new to the guidance, there were too many instances where the reader didn’t identify their significance in delaying the review. This takes on greater significance since a growing number of PSD permits nationwide are being successfully delayed by challenges to weaknesses in preconstruction monitoring and ecological inventory efforts.

Permitting Process Overview.

Even though the basic structure remained the same, there were a number of changes to subparts of the **Permitting Process Overview** as described below.

No changes were made to the **PSD Application Checklist discussion** although the web link will have to be changed once pending changes to the department web site are implemented.

The **Pre-Application Meeting** discussion was expanded to explicitly address the material needed for a constructive pre-application meeting incorporating in one place those items variously scattered around the earlier guidance as well as other documents on the web including the “PSD Checklist”, the “BACT FAQs” (both from the same Kaizen event) and the “Construction Permit and Modeling FAQ” (from a subsequent Kaizen event) as currently used for establishing pre-construction meeting agendas. The previous guidance’s reference to submittal of a 75% complete application the basis for an effective discussion was changed to 80% for emphasis and to conform the expectation set forth the 2006 “Construction Permit and Modeling FAQ” which not only references the 80% expectation twice but also details many of the items expected before the meeting. Dropped from the old guidance was the

requirement that to hold a preconstruction meeting. Rather the guidance was changed to be in agreement with the “Construction Permit and Modeling FAQ” statement that it is not required but that the department may not be able to process the application as quickly as would be possible if the pre-application meeting was held.

A new section was added between the **Submit Complete Application** and **Project Review and Issuance of Permit(s)** section to deal with requests for **Confidentiality**. This is of significant importance to a number of applicants (particularly those new to the state). The absence of any discussion of confidentiality issues was considered a weakness of the previous guidance. The section was developed by the legal personnel that conduct the confidentiality reviews with some minor changes for stylistic consistency and to address some confusion over the need to reiterate the confidentiality claim with each submittal of the information previously claimed.

The Project Review and Issuance of Permit(s) discussion was expanded to inform the applicant of the issues that can delay issuing the permit. This “heads-up” was felt to be important both because delays can be minimized if the applicant anticipates these steps and because particular effort was being placed to assure that the applicant is alerted to items that could cause delays. This foresight on the applicant’s part is important in order for the department to issue permits in a timely manner and to allow the company to meet their construction goals.

Also added was significantly more detail about the distribution of public participation documents to explain the process and to avoid surprises as the applicant realizes how widely dispersed their information has become and to explain the need for multiple copies.

PSD Application Elements

The **Complex PSD Submittal Items** section was renamed the **PSD Application Elements** section to reflect regulatory changes since development of the old guidance. This section was reorganized to more clearly identify the various separate analyses in the PSD application and review process.

In this reorganization the **Required Application Forms** discussion was moved to the end of the section and updated to delete forms which are no longer used, update the discussion for forms that have since been modified and include those new forms added (including outputs of subsequent Kaizen events) since the guidance was developed following the 2004 Kaizen.

The section’s reorganization included a new subsection entitled **Significant Net Emissions Elements** that includes the baseline actuals, projected actuals, and netting discussion that was needed to address the 2002 rule changes not acknowledged in the old guidance. It also retained the portions of **Emission Calculations, Net emissions increase for the project, Associated emissions increases** and **Documentation to support emission calculations** from the old **Complex PSD Submittal Items** section that remained relevant in light of the rule changes since the old guidance was written.

A **Source-wide Net Emission Changes (Netting)** discussion was added to outline the proper netting procedure. This was added to limit the number of cases where partial analyses are submitted identifying

only one (or a few) emission changes are identified in trying to avoid PSD review.

BACT Analyses.

The **Significant Net Emissions Elements** subsection was followed by the **BACT Analysis** subsection. The introductory paragraph was expanded to reflect current rule references and to more clearly describe which emission units in a projects are subject to BACT review. The subsequent steps in the BACT process were changed to delete assessment that are not part of the BACT process such as **Visibility Impacts, Soils and Vegetation Impacts, and Growth Impacts.**

The only change in the sequence of the remaining steps was to switch the **Technology Transfer** and **Technically Feasible** discussions for reasons noted below. In addition individual items were changed as follows:

The **Top-down BACT analysis** discussion was restructured into a series of short paragraphs which reviewers believe more clearly and accurately describe the process. Included in the rewrite is explicit reference to EPA's 1990 Draft New Source Review Workshop Manual and separation of components of the process into separate thoughts.

The **Technology Transfer** discussion was changed to clarify that the criteria is to include any control options that are used on similar air streams. This introduction clarifies the existing example from the old guidance which was intended to make that point. This discussion was moved ahead of the **Technically Feasible** discussion because potentially transferable technologies still have to be feasible to be retained in the BACT determination. The old guidance appeared to be saying that any identifiable potentially transferable technology had to be included in the rest of the BACT review.

The **Technically Feasible** discussion was modified to explicitly state that the purpose of this step is to eliminate options that fail to meet the identified criteria.

The **Rank remaining technologies in order of effectiveness** discussion was unchanged.

The **Evaluate most effective controls and document results** discussion was changed to identify the **economic impact** analysis and to delete the **Visibility Impacts, the Soils and Vegetation impacts and the Growth impacts** from the BACT determination process.

The economic impacts from the old manual were consolidated and formally titled **Economic impacts** to parallel existing **Energy impacts** and **Environmental impacts** discussions.

Added to the **Economic Impacts** discussion was a description of the role of average annual cost effectiveness and incremental cost effectiveness processes based on EPA's "1990 Draft New Source Review Workshop Manual". This was included to avoid a not uncommon intermingling of the two separate components of the economic review which, in turn, can require dramatic recalculation of the economic analysis.

Also added was a discussion of the situations where an applicant can skip the economic impacts analysis altogether. Specific attention was given this section to assure that it conformed to current longstanding departmental practices in place since the 1990 Workshop Manual became available.

Finally, the newly labeled **Economic Impacts** discussion was also changed to eliminate occasions when readers were misled by sentence structure that suggested an apparent internal conflict in the old manual that indicated that the analysis was to be conducted pursuant to EPA's Cost Control Manual but went on to identify specific factors were updated (or more specific) data needed to be used. This was made worse in that, in writing the old manual, there was an attempt to sound friendly by saying "should" even though required any time the economic analysis becomes important in determining BACT. In order to fully identify the factors in this document, factors from the various guidance documents were added to those from the old guidance. This includes the "PSD Checklist", the "BACT FAQ" and the "Construction Permit and Modeling FAQ". New wording also resolves the phrasing issue by explicitly stating that the applicant use the methodology of the Manual while applying the detail factors specified in the old manual and in other departmental guidance documents. Included in this category is use of the use of the Federal Reserve's reporting of Moody's corporate Aaa bond rating and default use of a 20 year equipment lifecycles (both specified in the BACT FAQ). Unlike the BACT FAQ, however, the revised guidance allows the use of alternate factors if justified. In addition the documentation of labor costs (required in the BACT FAQ) was included with a clarification that it includes both labor rates and work efforts for operation and maintenance of the control options. Also emphasized from the BACT FAQ was the need to document.

These details were implemented to address details in the Cost Control Manual's which are obsolete due to changing economic conditions and advances in technology since the mid/late '90s when components of the Manual were written. These changes from the Cost Control Manual are necessary to implement EPA instructions requiring use of current technology and other conditions in the case-by-case analysis inherent in a BACT review.

The **Energy Impacts** discussion was significantly expanded to parallel the economic impacts format to identify when the applicant can skip this analysis altogether. In addition, the discussion was expanded to clarify what aspects of energy use are economic (costs of operation) rather than the type of impacts set forth in EPA's "1990 Draft New Source Review Workshop Manual" and what type of impacts fall under this analysis beyond those identified in EPA's "1990 Draft New Source Review Workshop Manual". This was done to provide the applicant with correct information beyond that suggested in the old guidance while reflecting longstanding current procedures.

The **Environmental Impacts** discussion was expanded (similar to the economic and energy discussions) to clarify the implications of relatively terse statements in the old guidance, to identify those cases where the applicant can avoid the analysis or significantly reduce the burden of the analysis and to identify source of information that could help the applicant complete the analysis.

The **Select BACT** subsection was only changed by a phrase clarifying what specific control options

remain open for consideration at this final step in the selection process.

Additional Impact Analysis.

Paralleling the PSD rules, a new section (**Additional Impact Analysis**) was created to house the analyses which were previously (incorrectly) part of the BACT analysis. These are the **Visibility analysis, Soils and Vegetation analysis** and the **Growth analysis**. These were modified as follows:

The **Visibility impacts** discussion was expanded to explain what was meant by terms used in the old guidance and to assure consistency with the direction set forth in the PSD Modeling Guidance portion of the Department's Dispersion Modeling and Regional Modeling web page.

The **Soils and Vegetation impacts** discussion was also expanded to clarify the implications of individual phrases from the old guidance and to assure consistency with the direction set forth in the PSD Modeling Guidance portion of the Department's Dispersion Modeling and Regional Modeling web page. Finally a couple other sources of information are noted to help the applicant avoid some issues that have delayed other projects nationally due to appeals of inadequate analyses.

The **Growth Impacts** discussion is unchanged.

The **Proposed Permit Conditions** subsection is unchanged.

The **Dispersion Modeling Analysis** section is changed by breaking one paragraph apart to clarify three separate thoughts.

The **Definitions** section was eliminated because the paraphrased rule definitions were misleading and confusing.